

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE AS FOLLOWS:

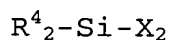
1. A one-part organopolysiloxane rubber composition for use as a high gloss coating on surfaces the composition consisting essentially of the product which is obtained by mixing the following:

- a) from about 20 to about 60 weight percent of one or more polydiorganosiloxane fluids of the formula



in which R is a monovalent alkyl or alkylene radical having 1 to 8 carbon atoms or a phenyl radical, and n has an average value such that the viscosity is from about 100 to about 20,000 centipoise at 25°C;

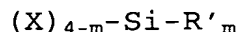
- b) from 0 to about 8 weight percent of a bifunctional chain extender of the general formula



20 where X is alkoxy or ketoximino and R⁴ is a monovalent alkyl or alkylene radical having 1 to 8 carbon atoms or a phenyl radical;

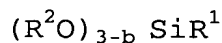
- c) from 0 to about 50 weight percent of an inorganic extending or non-reinforcing filler;
- 25 d) from about 0.5 to about 20 weight percent of an amorphous SiO₂ reinforcing filler having a surface area of between about 50 to 250 m²/g and a particle size range between about 0.01 and 0.03 microns;

- e) from about 3 to about 15 weight percent of one or more crosslinking agents of general formula



5 where R' is an alkyl, alkylene or phenyl radical (preferably methyl or ethyl), X is an alkyl radical with a functional group selected from carboxyl, ketoximino, alkoxy, carbonyl or amine linked directly to the silicone atom, and m is an integer of from 0 to 2;

- 10 f) from about 0.2 to about 3 weight percent of an adhesion promoter of the formula



15 in which R² and R³ are independently selected from monovalent alkyl or alkylene radicals having 1 to 8 carbon atoms or a phenyl radical which may optionally be substituted with an alkyl radical having 1 to 8 carbon atoms, b is an integer between 0 and 3, and R¹ is a
20 saturated, unsaturated or aromatic hydrocarbon radical having 1 to 10 carbon atoms which may optionally contain a functional group; and

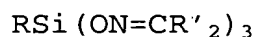
- g) from about 0.02 to about 3 weight percent of an organotin salt as a condensation catalyst.

25 2. A composition according to claim 1 wherein n is selected such that the viscosity is from about 1,000 to about 5,000 centipoise at 25°C.

3. A composition according to claim 2 wherein R is alkyl.

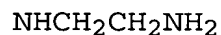
4. A composition according to claim 3 wherein R is methyl.

5. A composition according to claim 4 wherein the crosslinker is an oximosilane cross-linking agent of the formula;

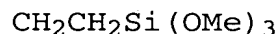


in which R and R' are independently selected from monovalent alkyl or alkylene radicals having 1 to 8 carbon atoms or a phenyl radical which may optionally be substituted with an alkyl radical having 1 to 8 carbon atoms.

6. A composition according to claim 5 wherein the adhesion promoter is a compound of the formula



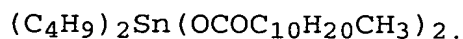
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wherein Me is the methyl radical.

7. A composition according to claim 6 wherein the organotin salt is an organotin salt of a carboxylic acid selected from the group consisting of dibutyltindiacetate, stannous octoate and dibutyltin dioctoate.

8. A composition according to claim 7 wherein the organotin salt of a carboxylic acid is a compound of the formula



9. A composition according to claim 8 wherein the inorganic extending or non-reinforcing filler is one or more materials selected from calcium carbonate, barium

sulfate, iron oxide, diatomaceous earth, melamine, quartz, crystalline silica, titanium dioxide, alumina trihydrate, zinc oxide, zirconium oxide and chromic oxide.

- 5 10. A composition according to claim 9 wherein the surface of the amorphous SiO_2 reinforcing filler has been treated with hexamethyldisilazane or polydimethylsiloxane or silane.
- 10 11. A composition according to claim 9 wherein the inorganic extending or non-reinforcing filler is a combination of about 0.5 to about 5.0 weight percent of crystalline silica and about 36 to about 48 weight percent of alumina trihydrate, the alumina trihydrate having a median particle size of $13\mu\text{m}$, containing 65.1
15 percent Al_2O_3 , 34.5 percent combined H_2O , 0.3 percent Na_2O , 0.02 percent CaO , 0.01 percent SiO_2 and having a specific gravity of 2.42, the aluminum trihydrate being present in a proportion of 90 to 110 parts by weight per 100 parts by weight of the polyorganosiloxanes.
- 20 12. A composition according to claim 9 wherein the inorganic extending or non-reinforcing filler is one or more materials selected from melamine, iron oxide, zinc oxide, titanium dioxide, zirconium oxide or zinc chromate.
- 25 13. A composition according to claim 12 wherein the inorganic extending or non-reinforcing filler is melamine.
14. A composition according to claim 1 consisting essentially of:
- 30 a) about 46 weight percent of a hydroxyl terminated dimethyl polysiloxane fluid having a viscosity of 1,000 to 5,000 Centipoise at 25°C ;

- b) about 4 weight percent of a mixture of amorphous and crystalline SiO_2 fillers having a specific gravity of 2.2 and surface area of up to about $130\text{m}^2/\text{g}$;
- 5 c) about 6 weight percent of methyl tris-(methyl ethyl ketoxime)silane;
- d) about 1 weight percent of N-(2 aminoethyl-3 aminopropyl)trimethoxysilane;
- 10 e) about 0.1 weight percent of dibutyltin dilaurate;
- f) about 40 weight percent of alumina trihydrate; and
- g) about 3 weight percent of a gray pigment.

15. A method of providing a surface with a high gloss
15 coating comprising

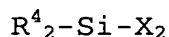
(1) applying to the surface a thin layer of a one-part organopolysiloxane rubber composition consisting essentially of the product which is obtained by mixing the following:

- 20 a) from about 20 to about 60 weight percent of one or more polydiorganosiloxane fluids of the formula



25 in which R is a monovalent alkyl or alkylene radical having 1 to 8 carbon atoms or a phenyl radical, and n has an average value such that the viscosity is from about 100 to about 20,000 centipoise at 25°C , preferably from 1,000 to 5,000 centipoise at 25°C ;

- b) from 0 to about 8 weight percent of a bifunctional chain extender of the general formula

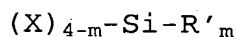


5 where X is alkoxy or ketoximino and R⁴ is a monovalent alkyl or alkylene radical having 1 to 8 carbon atoms or a phenyl radical;

- c) from 0 to about 50 weight percent of an inorganic extending or non-reinforcing filler;

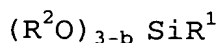
10 d) from about 0.5 to about 20 weight percent of an amorphous SiO₂ reinforcing filler having a surface area of between about 50 to 250 m²/g and a particle size range between about 0.01 and 0.03 microns;

15 e) from about 3 to about 15 weight percent of one or more crosslinking agents of general formula



20 where R' is an alkyl, alkylene or phenyl radical (preferably methyl or ethyl), X is an alkyl radical with a functional group selected from carboxyl, ketoximino, alkoxy, carbonyl or amine linked directly to the silicone atom, and m is an integer of from 0 to 2;

25 f) from about 0.2 to about 3 weight percent of an adhesion promoter of the formula



in which R² and R³ are independently selected from monovalent alkyl or alkylene radicals

having 1 to 8 carbon atoms or a phenyl radical which may optionally be substituted with an alkyl radical having 1 to 8 carbon atoms, b is an integer between 0 and 3, and R¹ is a saturated, unsaturated or aromatic hydrocarbon radical having 1 to 10 carbon atoms which may optionally contain a functional group; and

g) from about 0.02 to about 3 weight percent of an organotin salt as a condensation catalyst;

and

(2) allowing the layer of the one-part organopolysiloxane rubber composition to cure at room temperature to a silicone elastomer.

16. A method according to claim 15 wherein n is selected such that the viscosity is from about 1,000 to about 5,000 centipoise at 25°C.

17. A method according to claim 16 wherein R is alkyl.

18. A method according to claim 17 wherein the inorganic extending or non-reinforcing filler is one or more materials selected from calcium carbonate, barium sulfate, iron oxide, diatomaceous earth, melamine, quartz, crystalline silica, titanium dioxide, alumina trihydrate, zinc oxide, zirconium oxide and chromic oxide.

19. A composition according to claim 18 wherein the inorganic extending or non-reinforcing filler is a combination of about 0.5 to about 5.0 weight percent of crystalline silica and about 36 to about 48 weight percent of alumina trihydrate, the alumina trihydrate having a median particle size of 13.μm, containing 65.1 percent Al₂O₃, 34.5 percent combined H₂O, 0.3 percent

Na₂O, 0.02 percent CaO, 0.01 percent SiO₂ and having a specific gravity of 2.42, the aluminum trihydrate being present in a proportion of 90 to 110 parts by weight per 100 parts by weight of the polyorganosiloxanes.

5 20. A method according to claim 15 wherein the composition consists essentially of:

- a) about 46 weight percent of a hydroxyl terminated dimethyl polysiloxane fluid having a viscosity of 1,000 to 5,000 Centipoise at 25°C;
- 10 b) about 4 weight percent of a mixture of amorphous and crystalline SiO₂ fillers having a specific gravity of 2.2 and surface area of up to about 130m²/g;
- c) about 6 weight percent of methyl tris-(methyl
15 ethyl ketoxime)silane;
- d) about 1 weight percent of N-(2 aminoethyl-3 aminopropyl)trimethoxysilane;
- e) about 0.1 weight percent of dibutyltindilaurate;
- 20 f) about 40 weight percent of alumina trihydrate; and
- g) about 3 weight percent of a gray pigment.